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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,616	05/25/2000	Klemens Sensen	P65350US0	6527

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WASHINGTON, DC 20004

EXAMINER

LEYSON, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/577,616

Applicant(s)

SENSEN ET AL.

Examiner

Joseph Leyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2003.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 11-17 is/are allowed.
- 6) ☒ Claim(s) 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The corrected or substitute drawings were received on 10 April 2003. These drawings are approved by the examiner, but are objected to by the Draftsperson. See attached Form PTO-948.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamda et al.(-776) in view of Planeta et al.(-972), Sagar(-881) and Teutsch et al.(-612).

Yamada et al.(-776: fig. 4) disclose an apparatus which includes a die head including a central annular channel, which is provided with an annular outlet die slit 7 and into whose outer limiting wall empty internal annular slits (see fig. 4), which annular slits feed polymer melts and form smaller diameter openings of truncated annular feed channels 5, formed between the internal and external shells of stacked, conical insert members (see stacked members in fig. 4, note that a portion of the members are conical), the annular slits feeding the polymer melts from the truncated channels 5 into an inside wall of the central annular channel, and the internal and external shells of the conical insert members having mating interior and exterior surfaces which define therebetween rotating spiral channels or grooves, whose depths taper off in a direction of each smaller diameter opening or toward the central annular channel (figs. 4 and 6; col. 2, line 43, to col. 3, line 11). The mating interior and exterior surfaces define the truncated channels which include the spiral channels and the annular slits and which communicate with the central annular channel to cause polymer melt in the truncated channels to empty into the central

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annular channel to produce multilayered tubes. The internal and external shells of stacked insert members define the central annular channel having inner and outer walls. As shown in fig. 4, the internal and external slits of an aligned pair of external and internal insert members lie in the same radial plane, the internal and external truncated channels slope in opposite directions at approximately the same angle to the central annular channel, the internal and external truncated channels of the aligned pair of external and internal insert members communicate with the central annular channel in approximately the same radial plane, and the internal and external truncated channels are substantially concentrically spaced around the central annular channel. However, Yamamda et al.(-776) does not disclose the mating interior and exterior surfaces being conical surfaces which define the spiral channels, or respective spiral grooves of the aligned external and internal insert members being counter-rotating.

Planeta et al.(-972) disclose a die head including internal shells of stacked, conical insert members 24, 44, 64 and 84 having mating interior conical surfaces which define truncated annular feed channels having spiral channels 32, 92.

Sagar(-881) discloses a die head including external shells of stacked, conical insert members 54, 56 and 58 having mating

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exterior conical surfaces which define truncated annular feed channels having spiral channels 60, 62.

Teutsch et al.(-612) disclose that there can be one spiral groove (fig. 9), that respective spiral grooves can be co-rotating (fig. 2), that respective spiral grooves 93, 94 can be counter-rotating relative to each other (fig. 8), and that the number and direction of spiral grooves can vary. See col. 5, lines 49-59.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the mating interior and exterior surfaces of the internal and external shells of stacked, conical insert members of the die head of Yamamda et al.(-776) to have conical surfaces which define the spiral channels because such modifications are well known in the art as disclosed respectively by Planeta et al.(-972) and Sagar(-881) above and would provide an art recognized alternative configuration for making internal and external shells of stacked, conical insert members of a die head, and to further modify the respective spiral grooves of the aligned external and internal insert members to be counter-rotating because counter-rotating grooves are well known in the art as disclosed by Teutsch et al.(-612) and because varying the number and direction of spiral grooves is well known in the art as

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disclosed by Teutsch et al.(-612) for modifying the flow characteristics of the extrudate flow. Furthermore, note that even applicants admit in the instant disclosure (p. 3, lines 19-22) that counter rotating spiral channels are well known.

5. Claims 1-4 and 11-17 are allowed.

6. Applicant's arguments with respect to claims 5-9 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (703) 308-2647. The examiner can normally be reached on M-F(8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

*jl*

jl  
June 5, 2003

*James Mackey*  
**JAMES P. MACKEY**  
**PRIMARY EXAMINER**

*6/9/03*